

## **LASER FREQUENCY CONTROL USING DITHERED CONTROL SIGNAL**

### **Abstract of the Disclosure**

A dithering signal is superimposed on a laser frequency control signal. In this way, laser frequency control may be achieved by employing measurements from a single photodetector. By sampling synchronously to the dithering signal, it is possible to generate both the magnitude and sign of the current frequency error based on the output of a single photodetector. This reduces the number of components required to generate an optical signal and is particularly advantageous in WDM systems where laser frequency control components may be duplicated over a large number of channels.